

1. INTRODUCTION

This instrument is compact, battery operated, handheld 3 $\frac{1}{2}$ digit digital multimeter for measuring DC and AC voltage, DC and AC current, Resistance, Diode and Continuity Test.

Ten Dual - slope A - D Converter uses C - MOS technology for auto - zeroing, polarity selection and over - range indication Full overload Protection is provided.

It is specially designed with high stability for use on modern computerized circuits and laboratory, workshop, hobby and home applications.

2. FEATURES

- ★ Single 24 position easy to use rotary switch.
- ★ High sensitivity of 100 μ V.
- ★ Automatic overrange indication with the "1" displayed.
- ★ Automatic polarity indication on DC range.
- ★ All ranges fully protected.
- ★ Diode testing with 1mA fixed current.
- ★ Transistor hFE Test (optional).

3. SPECIFICATIONS

Accuracies are \pm (% reading + No. of digits)

Guaranteed for 1 Year. 23°C \pm 5°C, less than 75% RH.

DC Voltage

RANGE	ACCURACY	RESOLUTION
200mV	$\pm 0.5\%$ of rdg ± 1 digit	100 μ V
2V		1mV
20V		10mV
200V		100mV
1000V	$\pm 0.8\%$ of rdg ± 2 digits	1V

Input Impedance: 10M ohm on all ranges.

Overload Protection: 250V rms on 200 mV range and 1000V DC or peak AC on all other ranges.

AC Voltage

RANGE	ACCURACY	RESOLUTION
2V	$\pm 0.8\%$ of rdg ± 3 digit	1mV
20V		10mV
200V		100mV
750V	$\pm 1.2\%$ of rdg ± 3 digit	1V

Input Impedance: 10M ohm on all ranges.

Frequency Range: 40Hz to 400Hz.

Overload Protection: 750V rms or 1000V peak continuous on all ranges.

Indication: Average (rms of sine wave).

DC Current

RANGE	ACCURACY	RESOLUTION
200 μ A	$\pm 0.8\%$ of rdg ± 1 digit	0.1 μ A
2 μ A		1 μ A
20 μ A		10 μ A
200A	$\pm 1.2\%$ of rdg ± 1 digit	100 μ A
20A	$\pm 2\%$ of rdg ± 5 digits	10 μ A

Overload Protection: 0.2A / 250V fuse. (20A range not fused)

Maximum Input Current: 20A, 15sec.

AC Current

RANGE	ACCURACY	RESOLUTION
2mA	$\pm 1.2\%$ of rdg ± 3 digits	1 μ A
20mA		10 μ A
200mA	$\pm 2.0\%$ of rdg ± 3 digit	100 μ A
20A	$\pm 3\%$ of rdg ± 7 digits	10mA

Overload Protection: 0.2A / 250V fuse. (20A range not fused)

Frequency Range: 40Hz to 400Hz.

Maximum Input Current: 20A 15 sec.


Indication: Average (rms of sine wave)

Resistance:


RANGE	ACCURACY	RESOLUTION
200ohm	$\pm 0.8\%$ of rdg ± 3 digits	0.1ohm
2K ohm	$\pm 0.8\%$ of rdg ± 1 digit	1 ohm
20K ohm		10 ohm
200K ohm		100 ohm
2M ohm		1K ohm
20M ohm	$\pm 1\%$ of rdg ± 2 digits	10K ohm

Overload Protection: 250V DC / rms AC on all ranges.

4. GENERAL CHARACTERISTICS

Maximum Display	: 1999 counts (3 $\frac{1}{2}$ digits) with automatic polarity indication.
Indication Method	: LCD display.
Measuring Method	: Dual - Slope integration A - D converter system.
Overrange Indication	: "1" Figure only in the display.
Maximum common mode voltage	: 500V DC / AC rms.
Reading rate	: 2 - 3 reading Per sec (approximate).
Temperature for guaranteed accuracy	: 23°C \pm 5°C
Temperature Ranges	: Operating 0°C to 40°C, 32°F to 104°F. Storage - 10°C to 50°C, 14°F to 122°F.
Power Supply	: One 9 - volt battery (NEDA 1604, 6F22 TYPE or equivalent).
Low Battery Indication	:  to left of display.
Size	: 85W \times 165D \times 32Hmm
Weight	: 250g (including 9 Volt battery).
Accessories	: Operating manual, Set of test leads.

5. OPERATION

1. switch the meter on and check the 9V battery. if the battery is weak; a  sign will appear on the display.